

Application Serial No.: 10/820,236
Attorney Docket No.: 2156-608A

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Examiner: C. Sullivan
Art Unit: 1756

REMARKS

Claims 1 and 3-20 are pending in the present application. Claims 1 and 3 have been amended and claim 2 has been canceled.

Claim 1 has been amended to recite the feature that uncured areas of the first photoimageable film layer and the second photoimageable dry film layer are developed off with a developer capable of developing off uncured areas of both the first photoimageable dry-film layer and the second photoimageable dry film layer. Support for this amendment can be found in the specification, for example at page 8, lines 26-28, page 9, lines 30-31 and page 10, lines 11-12. The first passage indicates that the uncured dry film areas are developed off using a mild alkaline solution and the second and third passages disclose that the first and second photoimageable layers each comprise an acrylic alkaline developable binder, thus making it clear that the first and second photoimageable layers are developable in the same developer solution.

Claim 1 has also been amended to recite the features that the first photoimageable dry-film layer has a faster development time than the second photoimageable dry-film layer and/or the curing speed of the first photoimageable dry-film layer is slower than the curing speed of the second photoimageable dry-film layer. Support for these amendments can be found in the specification, for example at page 3, lines 8-13. No new matter is believed to have been added by virtue of these amendments.

Applicants respectfully submit that the amendments made herein do not raise new issues that would require further consideration and/or search and do not raise the issue of new matter. Applicants respectfully request entry of these amendments.

Rejections Under 35 U.S.C. § 102

Claims 1, 19 and 20 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Thomas.

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The Examiner asserts that Thomas describes a method of providing a thick film patterned substrate that anticipates all of the features of the claimed invention.

In response, Applicants have amended claim 1 to more clearly define the invention over the prior art of record. In particular, claim 1 has been amended to recite the features that the first photoimageable dry-film layer has a faster development time than the second photoimageable dry-film layer and/or the curing speed of the first photoimageable dry-film layer is slower than the curing speed of the second photoimageable dry-film layer.

Applicants respectfully submit that Thomas does not describe or suggest that the first and second photoimageable layers have different properties, i.e., faster/slower development times and/or curing speeds so that clean non-ragged edge can be obtained between the substrate and the deposited metal on the substrate after the first and second photoimageable layers are stripped from the substrate. While Thomas does describe multiple dry-film layers, Thomas does not describe or suggest that such layers can have different properties and thus does not anticipate or render obvious the claimed invention.

As discussed in Applicants' previous response, the difference in development property produces a T-shaped photoresist sandwich that eliminates ragged lines along the interface between the substrate and the photoresist (see page 3, lines 8-13 of the specification). Because Thomas does not describe or suggest that the layers have different features, Thomas is not solving the same problem as the present invention and does not anticipate or render obvious the claimed invention.

As to claim 20, the Examiner also asserts that although Thomas does not explicitly disclose that the first resist layer has a breaking point of 30% and the second resist layer has a breaking point of 60%, that one skilled in the art would appreciate that

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the resist layers would have different breaking points in order to effectively strip the first resist layer from the substrate.

Applicants respectfully disagree. Because Thomas does not recognize the issue of the use of photoresist layers having different properties, Thomas does not describe or suggest that such layers would have different breaking points. In fact, the only disclosure in this regard is in Applicants' disclosure, not in Thomas. Thus, one skilled in the art would not be motivated to use resist layers having different breaking points absent the suggestion in Applicants' own disclosure.

For all of these reasons, reconsideration and withdrawal of the rejection of claims 1, 19 and 20 as being anticipated by Thomas is respectfully requested.

Rejections Under 35 U.S.C. § 103

Claims 2-18 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Thomas in view of Minter.

The Examiner asserts that Thomas broadly describes all of the features of the claimed invention and uses Minter to cure the deficiencies of Thomas.

In particular, the Examiner asserts that Thomas does not disclose that the first layer develops faster than the second film layer and the particular dwell times of the first and second layers and uses Minter to cure the deficiencies of Thomas.

Applicants have amended claim 1 to recite that the developer capable of developing off uncured areas of both the first photoimageable dry-film layer and the second photoimageable dry film layer. Thus, claim 1 requires both first and second photoimageable dry-film layers having different properties *and* first and second photoimageable dry-film layers that are developable in the same solvent. Neither

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Thomas nor Minter describe or suggest these features of the invention and thus neither Thomas nor Minter anticipate or render obvious the claimed invention.

Firstly, Thomas does not describe or suggest the features of the two layers having different properties (i.e., dwell time or curing speed) and does not realize the benefits of the claimed invention in which the difference in development property produces a T-shaped photoresist sandwich that eliminates ragged lines along the interface between the substrate and the photoresist (see page 3, lines 8-13 of the specification).

The Examiner asserts that Minter describes a process of forming a T-shaped metal contact on a dielectric substrate and that Minter uses two photoresist layers that consist of different types of resists with different solubilities which meets the limitations of claims 2 and 3.

In response, Applicants have amended claim 1 to recite both that the first and second photoimageable dry-film layers having different properties *and* first and second photoimageable dry-film layers that are developable in the same solvent. Applicants respectfully submit that Minter does not describe or suggest layers that are developable in the same solvent. In particular, the Examiner's attention is directed to column 7, lines 16-22 of Minter, in which it is explained that the first and second photoresist compositions have different solubilities in their respective developers. That is the first photoresist, both before and after exposure should be substantially insoluble in the developer for the second photoresist and the second photoresist, both before and after exposure should be substantially insoluble in the developer for the first photoresist. Thus, it is clear that Minter does not describe or suggest layers that have different properties and that are developable in the same solvent as described and claimed herein by Applicants.

For all of these reasons, reconsideration and withdrawal of the rejection of claims 2-18 as being unpatentable over Thomas in view of Minter is respectfully requested.

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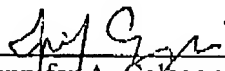
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CONCLUSION

Applicant believes that the foregoing is a full and complete response to the Office Action of record. Accordingly, an early and favorable reconsideration of all of the claims is requested. Applicant believes that claims 1 and 3-20 are now in condition for allowance and an indication of allowability and an early Notice of Allowance of all of the claims is respectfully requested.

If Examiner feels that a telephonic interview would be helpful, she is requested to call the undersigned at (203) 575-2648 prior to the issuance of the next office action.

Respectfully submitted,


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